

REMARKS

Reconsideration and allowance of the present application based on the following remarks are respectfully requested.

In view of the requirement for restriction (the prior telephonic election of Group II being herewith affirmed) and withdrawal of claims 1-10 from prosecution, the non-elected claims have been cancelled. Applicants reserve the right under 35 USC 121 to file one or more division applications to the divided out subject matter. No change of inventorship is required by the cancellation of claims 1-10.

While claims 1 and 2-10 have been cancelled as noted above, the subject matters of these claims have been introduced into newly added claims 16-24. Accordingly, no new matter is introduced into the application.

In view of the objection to claim 11 and the cancellation of claim 10, claim 11 is rewritten in independent form.

Also, in view of the objection to claim 14, this claim is amended by replacing the parenthesis from the phrase "relative to the total weight of the fiber layer" with commas. Although it was stated that punctuation at the end of the claim appears to be missing it is believed that the language of the claim is complete and accurate. For clarification, however, it is explained that the non-volatile solvent is associated with the fibers (the spelling of which has been changed throughout the claims to the American usage). The expressions "which fibres have" and "which shaped article has" have been changed, as suggested by the Examiner, to "said fibers having" and "said shaped article having" respectively.

Accordingly, withdrawal of the objections to claims 11 and 14 is requested.

With regard to the rejection of claims 12 and 14 under 35 USC 112, second paragraph, claim 12 is amended to further clarify the expression "which contain ... solvent of the polyolefin" as "said fiber layers containing polyolefin fibers and 0.05 to 25 wt.% of a solvent for the polyolefin, on and/or in the fibers." This is described throughout the specification, for example, see page 6, lines 19-21 and following.

It is further noted that in claims 12 and 14 the expression "one or more" has been changed to "two or more" which seems more consistent with the following phrase "on top of one another."

Claim 14 is further amended by defining "highly" in the phrase "highly oriented" by the functional requirement of modulus of tension as explained on page 5, lines 1-3. Since claim 14 already included the recitation of "modulus of tension of at least 800 g/den" this recitation has been moved to juxtaposition with the recitation of "highly oriented."

Accordingly, no new matter is introduced by the amendments to claims 12 and 14. The amendments address the Section 112, second paragraph rejections, which should be withdrawn.

Turning to the claim rejection under 35 USC 103(a) it is respectfully submitted that claims 11-14 would not have been prima facie obvious from the disclosure of WO 97/00766 (WO 766) in view of Kavesh et al, US 4,413,110 (US 110).

WO 766, which represents work by the assignee of the present application, does relate to a ballistic-resistant molded article comprising a compressed stack of single layers which consist of unidirectionally oriented reinforcing fibers and about 30 weight percent of a plastic matrix. This molded article is characterized by having at least 98.0% of the theoretical maximum density.

There is neither disclosure nor any suggestion whatsoever of fiber layers containing 0.02 to 25 wt.% of a solvent for the fibers.

This feature is not provided by the disclosure of US 110.

US 110 discloses high tenacity, high modulus polyethylene and polypropylene fibers obtained from solutions of ultrahigh molecular weight polymers. However, it is not the solvent (e.g., paraffin wax) containing extruded fibers (gels) which have the high tenacity and high strength. Rather, it is the extruded fibers after drying to remove the paraffin wax. The paraffin containing gel fibers are only intermediates in the production of the end fibers characterized by high tenacity and high modulus.

Incidentally, it is pointed out that the disclosure at column 4, lines 5-20 refers to the concentration of polymer (about 2 to 15 weight percent) in the first solvent and not the concentration or amount of solvent as suggested in the rejection.

As clear evidence that the ultimate fibers do not contain solvent, it is noted that the patentees characterize the dried gel as a "xerogel" (column 5, lines 49-58) which is explained to mean a gel which has a solid matrix of a wet gel, with the liquid replaced by gas. "Xero" is, of course, Greek for "dry."

Accordingly, while it is not conceded that one skilled in the art would have been motivated to use the high tenacity, high modulus fibers of US 110 as the reinforcing fibers in WO 766, even if such motivation is found and replacement occurs, the resulting shaped articles would not include from 0.02 to 25 wt.% of solvent.

For at least the above reasons, reconsideration and withdrawal of the rejection under 35 USC 103(a) is respectfully requested.

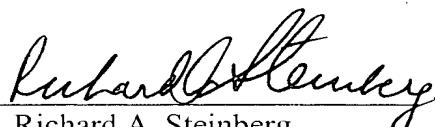
In view of the foregoing, the claims are now believed to be in form for allowance, and such action is hereby solicited. If any point remains in issue which the Examiner feels may be best resolved through a personal or telephone interview, please contact the undersigned at the telephone number listed below.

Attached is a marked-up version of the changes made to the specification and claims by the current amendment. The attached Appendix is captioned "Version with markings to show changes made".

All objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited.

Respectfully submitted,

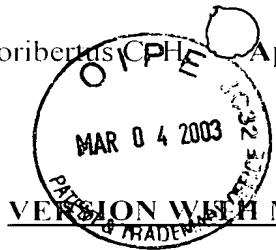
Pillsbury Winthrop LLP

By: 
Richard A. Steinberg
Reg. No.: 26,588
Tel. No.: (703) 905-2039

Paul L. Sharer
Reg. No.: 36,004
Tel. No.: (703) 905-2180

RAS\
1600 Tysons Boulevard
McLean, VA 22102

(703) 905-2000
Fax No.: (703) 905-2500
Attorney Docket No.: 030268/0280261
Enclosure: Appendix

APPENDIXVERSION WITH MARKINGS TO SHOW CHANGES MADE

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IN THE CLAIMS:

Claims 1-10 cancelled without prejudice, claims 11-14 amended as shown below, claims 16-24 added.

11. (Amended) Shaped article obtained according to a process of Claim 1 by compression of one or more fiber layers containing polyolefin fibers, wherein the fiber layers contain 0.02 to 25 wt.% of a solvent for the polyolefin, relative to the total weight of the polyolefin fibers and solvent in the fiber layer.

12. (Amended) Shaped article containing one two or more fibre fiber layers compressed on top of one another, which said fiber layers contain containing polyolefin fibres fibers and 0.05 to 25 wt.% of a solvent for the polyolefin on and/or in the fibers.

13. (same) Shaped article according to Claim 11, wherein the SEA on impact of an AK47 MSC point is at least 115 J/kg/m².

14. (Amended) Shaped article containing one two or more fibre fiber layers compressed on top of one another, containing highly oriented polyethylene fibre fibers having a modulus of tension of at least 800 g/den and at most 30 wt.% of a matrix material, relative to the total weight of the fibre fiber layer, the fibers fibres in the fiber fibre layers being unidirectionally oriented and at an angle relative to the fibers fibres in neighbouring fiber layers, said fibers having an intrinsic viscosity of at least 5 dl/g, a modulus of tension of at least 800 g/den, and a fineness of less than 5 denier per filament and 0.05 to 5 wt.% of a non-volatile solvent, said shaped article having a specific energy absorption on impact of an AK47 MSC point of at least 115 J/kg/ m².

End of Appendix